

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (currently amended): An input detection device, comprising:

- 5 a button set circuit comprising a plurality of buttons utilized for inputting commands,
 each button outputting a ~~unique~~ voltage level that is different from the voltage
 levels of all of the other buttons when the button is activated;
 a voltage generating circuit capable of outputting a plurality of generated voltage
 levels corresponding to the ~~unique~~ voltage levels outputted by each of the
10 buttons in the button set circuit;
 a plurality of input/output (I/O pins) for specifying which generated voltage level is
 output by the voltage generating circuit;
 a comparator for comparing each of the generated voltage levels outputted from the
 voltage generating circuit with the voltage outputted from the button set circuit;
15 and
 a control circuit for controlling the voltage generating circuit with the plurality of
 I/O pins to alternately output each of the generated voltage levels, for recording
 the generated voltage level that is approximately equal to the voltage outputted
 from the button set circuit, and for determining which button in the button set
20 circuit was activated based on the recorded generated voltage level.

25 2 (original): The input detection device of claim 1 wherein the control circuit records the
 highest generated voltage level that is lower than the voltage outputted from the
 button set circuit.

3 (original): The input detection device of claim 1 wherein the control circuit records the
lowest generated voltage level that is higher than the voltage outputted from the

button set circuit.

4 (original): The input detection device of claim 1 wherein the I/O pins are general purpose I/O (GPIO) pins.

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5 (currently amended): The input detection device of claim 1 wherein the ~~unique~~ voltage level associated with each button is greater than the ~~unique~~ voltage level associated with a preceding button by a factor of two and is less than the ~~unique~~ voltage level associated with a succeeding button by a factor of two.

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6 (original): The input detection device of claim 1 wherein when two or three buttons are pressed simultaneously, the input detection device determines that the button having a highest priority was activated.

15 7 (currently amended): The input detection device of claim 6 wherein the button outputting the largest ~~unique~~ voltage level has the highest priority.

8 (currently amended): The input detection device of claim 1 wherein $n+1$ I/O pins are utilized to detect ~~are capable of detecting~~ which button of up to 2^n buttons was activated, n being a positive integer.

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9 (currently amended): A method of detecting input commands, comprising:
providing a button set circuit comprising a plurality of buttons utilized for inputting commands, each button outputting a ~~unique~~ voltage level that is different from the voltage levels of all of the other buttons when the button is activated;
25 activating at least one button in the button set circuit, thereby outputting a voltage from the button set circuit;
outputting a plurality of generated voltage levels corresponding to the ~~unique~~ voltage

- levels outputted by each of the buttons in the button set circuit;
comparing each of the generated voltage levels with the voltage outputted from the
button set circuit;
alternately outputting each of the generated voltage levels;
5 recording the generated voltage level that is approximately equal to the voltage
outputted from the button set circuit; and
determining which button in the button set circuit was activated based on the
recorded generated voltage level.
- 10 10 (original): The method of claim 9 wherein recording the generated voltage level that is
approximately equal to the voltage outputted from the button set circuit comprises
recording the highest generated voltage level that is lower than the voltage outputted
from the button set circuit.
- 15 11 (original): The method of claim 9 wherein recording the generated voltage level that is
approximately equal to the voltage outputted from the button set circuit comprises
recording the lowest generated voltage level that is higher than the voltage outputted
from the button set circuit.
- 20 12 (currently amended): The method of claim 9 wherein the ~~unique~~ voltage level
associated with each button is greater than the ~~unique~~ voltage level associated with a
preceding button by a factor of two and is less than the ~~unique~~ voltage level
associated with a succeeding button by a factor of two.
- 25 13 (original): The method of claim 9 wherein when two or three buttons are pressed
simultaneously, determining that the button having a highest priority was activated.
- 14 (currently amended): The method of claim 13 wherein the button outputting the largest

~~unique~~ voltage level has the highest priority.

15. (new): An input detection device, comprising:

- 5 a button set circuit comprising a first button and a second button, the button set
 circuit outputting a first voltage level when the first button is activated, the
 button set circuit outputting a second voltage level when the second button is
 activated, the first voltage being different from the second voltage level;
- 10 a voltage generating circuit for outputting a first reference voltage level and a second
 reference voltage level, the first reference voltage level being approximately
 equal to the first voltage level, and the second reference voltage level being
 approximately equal to the second voltage level;
- a comparator comparing each of the first and second reference voltage levels with
 the voltage outputted from the button set circuit; and
- 15 a control circuit controlling the voltage generating circuit to sequentially output the
 first and the second reference voltage levels, and determining which button in
 the button set circuit is activated based on a result outputted from the
 comparator when the first and the second reference voltage levels are
 sequentially applied to the comparator.

20 16 (new): The method of claim 15 wherein the first voltage level and the second voltage
 level differ by a factor of two.

 17 (new): The input detection device of claim 15 wherein when the first and second
 buttons are pressed simultaneously, the input detection device determines that the
25 button having a highest priority was activated.

 18 (new): The input detection device of claim 17 wherein the button outputting the largest
 voltage level has the highest priority.